

[0027] A plurality of said clamping members may be of substantially identical construction to each other.

[0028] This provides the advantage of further reducing complexity and cost of the apparatus.

[0029] At least one said clamping member may include a curved surface adapted to be brought into clamping engagement with the cable.

[0030] This provides the advantage of improving the clamping force and/or axial pull load resistance.

[0031] At least one said curved surface may have a plurality of surface portions having different curvatures and adapted to engage respective surfaces of cables of different diameters.

[0032] This provides the advantage of enabling the clamping apparatus to effectively grip cables of a wide variety of diameters while minimising the risk of damage to the cables.

[0033] At least one said clamping member may comprise at least one protrusion on a surface thereof adapted to be brought into clamping engagement with the cable.

[0034] This provides the advantage of improving the clamping force and/or axial pull load resistance.

[0035] At least one said protrusion may be adapted to penetrate at least one layer of the cable.

[0036] This provides the advantage of improving reliability of earthing electrical connection between conductive members of the cable and a cable gland incorporating the apparatus.

[0037] The apparatus may be adapted to make electrical contact with at least one electrically conductive member of the cable.

[0038] This provides the advantage that a cone and sleeve arrangement for clamping the conductive members is no longer necessary, thereby reducing the cost and complexity of a cable gland incorporating the clamping apparatus and reducing the time taken for and complexity of assembly of the cable gland.

[0039] According to another aspect of the present invention, there is provided a cable gland comprising:

[0040] a gland body having a third aperture there-through for receiving at least part of a cable;

[0041] at least one seal for sealing engagement with at least part of a cable extending through said third aperture; and

[0042] at least one clamping apparatus as defined above.

[0043] The cable gland may further comprise at least one first gland body member and at least one second gland body member, wherein at least one said clamping apparatus is actuated by rotation of at least one said first gland body member relative to at least one said second gland body member.

[0044] This provides the advantage of simplifying operation of the cable gland.

[0045] Preferred embodiments of the invention will now be described, by way of example only and not in any limitative sense, with reference to the accompanying drawings, in which:

[0046] FIG. 1 is an exploded perspective view of a first embodiment of a cable gland of the present invention;

[0047] FIG. 2 is a partially cut-away perspective view of the cable gland of FIG. 1 in an assembled condition;

[0048] FIG. 3 is a schematic perspective view of first embodiment of a clamping apparatus of the cable gland of

FIG. 1 embodying the present invention and with clamping members thereof in an unclamped position;

[0049] FIG. 4 shows a perspective view of the clamping members of the clamping apparatus of FIG. 3;

[0050] FIG. 5 shows the clamping apparatus of FIG. 3 with the clamping members in a clamped position;

[0051] FIG. 6 is a view corresponding to FIG. 5 with the clamping apparatus mounted to a cable;

[0052] FIG. 7 is a perspective view of a cable prior to mounting the cable gland of FIG. 1 thereto;

[0053] FIG. 8 is a perspective view of the cable of FIG. 7 with a cone and sleeve assembly of the cable gland of FIG. 1 in an unassembled condition;

[0054] FIG. 9 is a view corresponding to FIG. 8 with the cone and sleeve assembly in an assembled condition;

[0055] FIG. 10 is a perspective view of a second embodiment of a clamping apparatus of the present invention;

[0056] FIG. 11 is a perspective view of a cable prior to mounting of the clamping apparatus of FIGS. 4 to 6 thereto;

[0057] FIG. 12 is a perspective view of the clamping apparatus of FIGS. 4 to 6 mounted to the cable of FIG. 11;

[0058] FIG. 13 is a perspective view of a cable prior to mounting of the clamping apparatus of FIG. 10 thereto;

[0059] FIG. 14 is a partially cut-away perspective view of a second embodiment of a cable gland of the present invention;

[0060] FIG. 15 is a partially cut-away perspective view of a cable gland incorporating the clamping apparatus of FIG. 10;

[0061] FIG. 16 is a perspective view of a third embodiment of a clamping apparatus of the present invention;

[0062] FIG. 17 is a cross sectional view of the apparatus of FIG. 16 in an unclamped position;

[0063] FIG. 17A is an enlarged view of part of the apparatus of FIG. 17;

[0064] FIG. 18 is a cross sectional view of the apparatus of FIG. 16 in a clamped position; and

[0065] FIG. 18A is an enlarged view of part of the apparatus of FIG. 18.

[0066] Referring to FIGS. 1 and 2, a cable gland 2 of a first embodiment of the present invention for mounting a cable 4 (FIGS. 6 to 9) to an enclosure (not shown) has a first gland body member 6 having a first external screw threaded portion 8 for engagement with a corresponding thread on the enclosure and a second external screw threaded portion 10 for engaging a first internal screw threaded portion 12 of a second gland body member 14. The second gland body member 14 has a third external screw threaded portion 16 for engagement with a second internal screw threaded portion 18 on a third gland body member 20. The first 6, second 14 and third 20 gland body members are mounted together to form a body of the cable gland 2.

[0067] The first gland body member 6 has a first radial surface 22 for abutment with a first end 24 of a wider part 26 of a generally conical member 28 forming part of a cone and sleeve assembly. A second radial surface 30 of the first gland body member 6 abuts a first end of a sleeve 32 forming part of the cone and sleeve assembly and inside which a narrower part 34 (FIG. 2) of the conical member 28 fits. A second end of the sleeve 32 abuts a third radial surface 36 on the second gland body member 14, such that engagement of the first 6 and second 14 gland body members to move the first 22 and second 36 radial surfaces towards each other holds the conical member 28 and sleeve 32 in position to